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(12) **United States Patent**
Inukai

(10) **Patent No.: US 7,425,937 B2**
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(54) **DEVICE AND DRIVING METHOD THEREOF**

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See application file for complete search history.

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(57) **ABSTRACT**

To provide a display device and its driving method free from lack of writing time, which usually accompanies an increase in size of a display device and enhancement in definition. Therefore, there is provided a display device and a driving method in which x (x is a natural number equal to or larger than 4) data lines are placed in each column to simultaneously supply video signals to x pixels through the x data lines. The present invention makes it possible to supply video signals to x pixels simultaneously as opposed to conventional dot sequential driving where a signal is supplied to one pixel at a time. Furthermore, a display device of the present invention and its driving method make it possible to supply video signals to (x×n) pixels at once as opposed to conventional linear sequential driving where only n pixels in the first to last (the last column is the n-th column) columns receive signals simultaneously. Thus the present invention can make the speed of writing video signals in pixels x times faster than prior art.

39 Claims, 14 Drawing Sheets